

C.M.KAM

RE-RUN



1600

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/627,165E

DATE: 03/17/2003

TIME: 15:42:07

Input Set : N:\vernette\US09627165E.raw

Output Set: N:\CRF4\03172003\I627165E.raw

1 <110> APPLICANT: KIM, Jong-Bae
2 <120> TITLE OF INVENTION: CRUDE EXTRACT FROM Viscum album coloratum, AND PROTEINS
3 AND LECTINS ISOLATED THEREFROM
4 <130> FILE REFERENCE: Korean Mistletoe Lectin
C--> 5 <140> CURRENT APPLICATION NUMBER: US/09/627,165E
C--> 6 <141> CURRENT FILING DATE: 2001-05-17
7 <160> NUMBER OF SEQ ID NOS: 80
9 <210> SEQ ID NO: 1

ENTERED

10 <211> LENGTH: 762
11 <212> TYPE: DNA
12 <213> ORGANISM: Viscum album coloratum
13 <220> FEATURE:
14 <221> NAME/KEY: misc_feature
15 <400> SEQUENCE: 1
16 tacgagagggc taagactcag agttacgcat caaaccacgg gcgacgaata tttccgggttc 60
17 atcacgcttc tccgagatta tgtctcaagc ggaagctttt ccaatgagat accactcttg 120
18 cgtcagtcta cgatccccgt ctccggtgag caaagatttg tggtggtgga actcaccaat 180
19 caggggggag actcgatcac ggccgccatc gacgttacta acctgtacgt ggtgggttac 240
20 caagcaggcg accaatccta ctttttgccg gacgcaccag acggcgcgga aaggcatctc 300
21 ttcaccggca ccaccagatc ctccctccca ttcaccggaa gctacacaga tctggagcga 360
22 ttcgcccgtc atagggacca gatccctctg ggtagagagg aactcattca atccgtctcg 420
23 gcccttcggt ttccgggcag caacactcgt gcccaagctc gttcctttat catcctcatt 480
24 cagatgatct ccgaggccgc cagattcaat cccatcttat ggagggtctg ccaatacatt 540
25 agcagtgggg ggtcatttct gccagacacg tacattctcc agctggagac gagttggggg 600
26 caacaatcca cgcaagttca gcaactcgac gatggcggtt ttaataaccc aattcggttg 660
27 actatatcca ctggtgtctt cgtgacgttg agcaatgttc gcgacgtgat cgccagctta 720
28 gcgatcatgt tgtttgtatg cgaggaccgg ccatcttctt ct 762

30 <210> SEQ ID NO: 2
31 <211> LENGTH: 254
32 <212> TYPE: PRT
33 <213> ORGANISM: Viscum album coloratum
34 <220> FEATURE:
35 <221> NAME/KEY: misc_feature
36 <400> SEQUENCE: 2
37 Tyr Glu Arg Leu Arg Leu Arg Val Thr His Gln Thr Thr Gly Asp Glu
38 1 5 10 15
39 Tyr Phe Arg Phe Ile Thr Leu Leu Arg Asp Tyr Val Ser Ser Gly Ser
40 20 25 30
41 Phe Ser Asn Glu Ile Pro Leu Leu Arg Gln Ser Thr Ile Pro Val Ser
42 35 40 45
43 Asp Ala Gln Arg Phe Val Leu Val Glu Leu Thr Asn Gln Gly Gly Asp
44 50 55 60
45 Ser Ile Thr Ala Ala Ile Asp Val Thr Asn Leu Tyr Val Val Ala Tyr

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46          65          70          75          80
47      Gln Ala Gly Asp Gln Ser Tyr Phe Leu Arg Asp Ala Pro Asp Gly Ala
48                      85          90          95
49      Glu Arg His Leu Phe Thr Gly Thr Thr Arg Ser Ser Leu Pro Phe Thr
50                      100          105          110
51      Gly Ser Tyr Thr Asp Leu Glu Arg Phe Ala Gly His Arg Asp Gln Ile
52                      115          120          125
53      Pro Leu Gly Arg Glu Glu Leu Ile Gln Ser Val Ser Ala Leu Arg Phe
54                      130          135          140
55      Pro Gly Ser Asn Thr Arg Ala Gln Ala Arg Ser Phe Ile Ile Leu Ile
56      145          150          155          160
57      Gln Met Ile Ser Glu Ala Ala Arg Phe Asn Pro Ile Leu Trp Arg Ala
58                      165          170          175
59      Arg Gln Tyr Ile Ser Ser Gly Gly Ser Phe Leu Pro Asp Thr Tyr Ile
60                      180          185          190
61      Leu Gln Leu Glu Thr Ser Trp Gly Gln Gln Ser Thr Gln Val Gln His
62                      195          200          205
63      Ser Thr Asp Gly Val Phe Asn Asn Pro Ile Arg Leu Thr Ile Ser Thr
64                      210          215          220
65      Gly Val Phe Val Thr Leu Ser Asn Val Arg Asp Val Ile Ala Ser Leu
66      225          230          235          240
67      Ala Ile Met Leu Phe Val Cys Glu Asp Arg Pro Ser Ser Ser
68                      245          250

70 <210> SEQ ID NO: 3
71 <211> LENGTH: 762
72 <212> TYPE: DNA
73 <213> ORGANISM: Viscum album coloratum
74 <220> FEATURE:
75 <400> SEQUENCE: 3
76      tacgagaggc taagactcag agttacgcat caaaccacgg gcgaccaata tttcaagttc 60
77      atcacgcttc tccgagatca tgtctcaagc ggaagcttgt ccaatcaa at accactcttg 120
78      cggcagtcta ctgtccccgt ctcgatacag cagagatttg tgttggtgga actcagcaat 180
79      caggggggag actcgatcac ggccgccatc gacgttacca atctgtacgt ggtggcttac 240
80      caagcaggca accaatecta ctttttgccg gacgcacctc gcggcgcgga aacgtatctc 300
81      ttcaccggca ccacccgatc ctctctccca ttcaacggaa gctaccctga tctggagcga 360
82      tacgccggac atagggacca gatccctctc ggtatagacc aactcattca atccgtctcg 420
83      gcccttcgtt ttccgggcag caacactcgt gcccaagctc gttcctttat catcctcatt 480
84      cagatgatct ccgaggccgc cagattcaat cccatcttat ggagggctcg ccaatacatt 540
85      agcagtgggg ggtcatttct gccagacacg tacattctcc agctggagac gagttggggg 600
86      caacaatcca cgcaagttca gcactcgacg gatggcggtt ttaataaacc aattcggttg 660
87      actatatcca ctggtgtctt cgtgacgttg agcaatgttc gcgacgtgat cgccagcyta 720
88      gcgatcatgt tgttgtatg cgaggaccgg ccattctcct ct 762
90 <210> SEQ ID NO: 4
91 <211> LENGTH: 254
92 <212> TYPE: PRT
93 <213> ORGANISM: Viscum album coloratum
94 <220> FEATURE:
95 <221> NAME/KEY: misc_feature
96 <222> LOCATION: 240

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Input Set : N:\vernette\US09627165E.raw

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97 <223> OTHER INFORMATION: Xaa = any amino acid

98 <400> SEQUENCE: 4

99 Tyr Glu Arg Leu Arg Leu Arg Val Thr His Gln Thr Thr Gly Asp Gln
 100 1 5 10 15
 101 Tyr Phe Lys Phe Ile Thr Leu Leu Arg Asp His Val Ser Ser Gly Ser
 102 20 25 30
 103 Leu Ser Asn Gln Ile Pro Leu Leu Arg Gln Ser Thr Val Pro Val Ser
 104 35 40 45
 105 Asp Thr Gln Arg Phe Val Leu Val Glu Leu Ser Asn Gln Gly Gly Asp
 106 50 55 60
 107 Ser Ile Thr Ala Ala Ile Asp Val Thr Asn Leu Tyr Val Val Ala Tyr
 108 65 70 75 80
 109 Gln Ala Gly Asn Gln Ser Tyr Phe Leu Arg Asp Ala Pro Arg Gly Ala
 110 85 90 95
 111 Glu Thr Tyr Leu Phe Thr Gly Thr Thr Arg Ser Ser Leu Pro Phe Asn
 112 100 105 110
 113 Gly Ser Tyr Pro Asp Leu Glu Arg Tyr Ala Gly His Arg Asp Gln Ile
 114 115 120 125
 115 Pro Leu Gly Ile Asp Gln Leu Ile Gln Ser Val Ser Ala Leu Arg Phe
 116 130 135 140
 117 Pro Gly Ser Asn Thr Arg Ala Gln Ala Arg Ser Phe Ile Ile Leu Ile
 118 145 150 155 160
 119 Gln Met Ile Ser Glu Ala Ala Arg Phe Asn Pro Ile Leu Trp Arg Ala
 120 165 170 175
 121 Arg Gln Tyr Ile Ser Ser Gly Gly Ser Phe Leu Pro Asp Thr Tyr Ile
 122 180 185 190
 123 Leu Gln Leu Glu Thr Ser Trp Gly Gln Gln Ser Thr Gln Val Gln His
 124 195 200 205
 125 Ser Thr Asp Gly Val Phe Asn Asn Pro Ile Arg Leu Thr Ile Ser Thr
 126 210 215 220
 W--> 127 Gly Val Phe Val Thr Leu Ser Asn Val Arg Asp Val Ile Ala Ser Xaa
 128 225 230 235 240
 129 Ala Ile Met Leu Phe Val Cys Glu Asp Arg Pro Ser Ser Ser
 130 245 250

132 <210> SEQ ID NO: 5

133 <211> LENGTH: 768

134 <212> TYPE: DNA

135 <213> ORGANISM: Viscum album coloratum

136 <220> FEATURE:

137 <221> NAME/KEY: misc_feature

138 <400> SEQUENCE: 5

139 tacgagaggc taagactcag agttacgcat caaaccacgg gcgacgaata tttccggttc 60
 140 atcaagcttc tccgagactc tgtctcaagc ggaagctttt ccaatgacat accgctcctg 120
 141 cctccgtcaa tcccggcttc ctctgcgcag agatttgtgt tgggtggaact cacaaatcag 180
 142 ttgggaaagt gggaagactc gatcacggcc gccatcgacg ttaccaatct gtacgtggtg 240
 143 gcttaccagg caggcgacca atcctacttt ttgcgcgacg caccagacgg cgcggaaagg 300
 144 catctcttca ccggcaccac cagatcctct cttcctttca acggaagcta cgctgatctg 360
 145 gagcggtagc ccggacatag ggaccggatc cctctgggta gagagccact catac gatcc 420
 146 gtctcggcgc ttgattatcc cggcggcagc acgcgcgccc aagccagttc cattattatc 480

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Output Set: N:\CRF4\03172003\I627165E.raw

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147      gtcattcaga tgatctccga ggcggccaga ttcaatccca tcctatggag ggctcgccaa 540
148      tacattaaca gtggggtgtc atatcttcca gacgtgtaca tgctggagct ggaggcgagt 600
149      tggggccaac aatcgacca agtccagcag tcgaccgatg gcgtttttaa taaccaatt 660
150      cggttgggta tatccaccg caacttcgtg tggttgagca atgttcgcga cgtgatcgcc 720
151      agcttgggga tcatggtgtt tgtatgcagg gaccggtcat cttcccct 768
153 <210> SEQ ID NO: 6
154 <211> LENGTH: 256
155 <212> TYPE: PRT
156 <213> ORGANISM: Viscum album coloratum
157 <220> FEATURE:
158 <221> NAME/KEY: misc_feature
159 <400> SEQUENCE: 6
160      Tyr Glu Arg Leu Arg Leu Arg Val Thr His Gln Thr Thr Gly Asp Glu
161      1          5          10          15
162      Tyr Phe Arg Phe Ile Lys Leu Leu Arg Asp Ser Val Ser Ser Gly Ser
163      20          25          30
164      Phe Ser Asn Asp Ile Pro Leu Leu Pro Pro Ser Ile Pro Val Ser Ser
165      35          40          45
166      Ala Gln Arg Phe Val Leu Val Glu Leu Thr Asn Gln Leu Gly Lys Trp
167      50          55          60
168      Glu Asp Ser Ile Thr Ala Ala Ile Asp Val Thr Asn Leu Tyr Val Val
169      65          70          75          80
170      Ala Tyr Gln Ala Gly Asp Gln Ser Tyr Phe Leu Arg Asp Ala Pro Asp
171      85          90          95
172      Gly Ala Glu Arg His Leu Phe Thr Gly Thr Thr Arg Ser Ser Leu Pro
173      100         105         110
174      Phe Asn Gly Ser Tyr Ala Asp Leu Glu Arg Tyr Ala Gly His Arg Asp
175      115         120         125
176      Arg Ile Pro Leu Gly Arg Glu Pro Leu Ile Arg Ser Val Ser Ala Leu
177      130         135         140
178      Asp Tyr Pro Gly Gly Ser Thr Arg Ala Gln Ala Ser Ser Ile Ile Ile
179      145         150         155         160
180      Val Ile Gln Met Ile Ser Glu Ala Ala Arg Phe Asn Pro Ile Leu Trp
181      165         170         175
182      Arg Ala Arg Gln Tyr Ile Asn Ser Gly Val Ser Tyr Leu Pro Asp Val
183      180         185         190
184      Tyr Met Leu Glu Leu Glu Ala Ser Trp Gly Gln Gln Ser Thr Gln Val
185      195         200         205
186      Gln Gln Ser Thr Asp Gly Val Phe Asn Asn Pro Ile Arg Leu Gly Ile
187      210         215         220
188      Ser Thr Gly Asn Phe Val Trp Leu Ser Asn Val Arg Asp Val Ile Ala
189      225         230         235         240
190      Ser Leu Gly Ile Met Val Phe Val Cys Arg Asp Arg Ser Ser Ser Pro
191      245         250         255
193 <210> SEQ ID NO: 7
194 <211> LENGTH: 797
195 <212> TYPE: DNA
196 <213> ORGANISM: Viscum album coloratum
197 <220> FEATURE:

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198 <221> NAME/KEY: misc_feature
199 <400> SEQUENCE: 7
200      acgatgtaac ctgcactact tccgaaccta cggtagcggtt tgtgggtcga aatggcctgt 60
201      gtctcgacgt cccagagggc gattaccacg atggaagtcg gatacagttg tggccctgca 120
202      agtccaactc cgatcagaat cagctgtgga cgatcagaag ggatggaacc attcgatcta 180
203      atggaaggtg cttgacgacc tatgggtata ctgcgggcag ctatataatg atctacgact 240
204      gtaatagagg ggggtgggac cttactactt ggcagataag gggcaatgga atcatcctta 300
205      atccaagatc catgatggtg atcggaacac catccgggag ccgcggaacc cgtggcacta 360
206      cttttactct gcaaacactg ggttactcat taggacaggg ctggcttgcc agcaatgata 420
207      ccgctcctcg cgaggttaacc atatatggtt tccgcgatca ttgcatggaa actagtggag 480
208      ggaaagtgtg ggttgggact tgtgtgagtg gcaagcagaa ccaaagatgg gctttgtacg 540
209      gggatgggtc cattcgcccg aaaccttacc aagaccaatg cctcacctct caggagact 600
210      ccgtagatc cgtaatcaat ttatttagct gcaccgctgg atcgccaagg caacgatggg 660
211      tatttaccaa taaaggggcc attttgaatt taaagaatag gttggccatg gatgtggcgg 720
212      aatcaaatcc aagcctccgc cgaataatca tcttttcagt cactggaaat ccaaatcaaa 780
213      tgtggcttcc cgtgcca 797
215 <210> SEQ ID NO: 8
216 <211> LENGTH: 266
217 <212> TYPE: PRT
218 <213> ORGANISM: Viscum album coloratum
219 <220> FEATURE:
220 <221> NAME/KEY: misc_feature
221 <400> SEQUENCE: 8
222      Asp Asp Val Thr Cys Thr Thr Ser Glu Pro Thr Val Arg Phe Val Gly
223      1          5          10          15
224      Arg Asn Gly Leu Cys Leu Asp Val Pro Glu Gly Asp Tyr His Asp Gly
225      20          25          30
226      Ser Arg Ile Gln Leu Trp Pro Cys Lys Ser Asn Ser Asp Gln Asn Gln
227      35          40          45
228      Leu Trp Thr Ile Arg Arg Asp Gly Thr Ile Arg Ser Asn Gly Arg Cys
229      50          55          60
230      Leu Thr Thr Tyr Gly Tyr Thr Ala Gly Ser Tyr Ile Met Ile Tyr Asp
231      65          70          75          80
232      Cys Asn Arg Gly Gly Trp Asp Leu Thr Thr Trp Gln Ile Arg Gly Asn
233      85          90          95
234      Gly Ile Ile Leu Asn Pro Arg Ser Met Met Val Ile Gly Thr Pro Ser
235      100         105         110
236      Gly Ser Arg Gly Thr Arg Gly Thr Thr Phe Thr Leu Gln Thr Leu Gly
237      115         120         125
238      Tyr Ser Leu Gly Gln Gly Trp Leu Ala Ser Asn Asp Thr Ala Pro Arg
239      130         135         140
240      Glu Val Thr Ile Tyr Gly Phe Arg Asp His Cys Met Glu Thr Ser Gly
241      145         150         155         160
242      Gly Lys Val Trp Val Gly Thr Cys Val Ser Gly Lys Gln Asn Gln Arg
243      165         170         175
244      Trp Ala Leu Tyr Gly Asp Gly Ser Ile Arg Pro Lys Pro Tyr Gln Asp
245      180         185         190
246      Gln Cys Leu Thr Ser Gln Gly Asp Ser Val Arg Ser Val Ile Asn Leu
247      195         200         205

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RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/627,165E

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Input Set : N:\vernette\US09627165E.raw
Output Set: N:\CRF4\03172003\I627165E.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:4; Xaa Pos. 240
Seq#:12; Xaa Pos. 161
Seq#:13; N Pos. 19,57,190,331
Seq#:14; Xaa Pos. 7,64,111
Seq#:17; N Pos. 3,6,12,16
Seq#:18; N Pos. 3,6,12,15
Seq#:22; Xaa Pos. 4
Seq#:51; Xaa Pos. 7
Seq#:61; Xaa Pos. 17
Seq#:76; Xaa Pos. 4,6

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 2

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/627,165E

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Input Set : N:\vernette\US09627165E.raw

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L:5 M:270 C: Current Application Number differs, Wrong Format
 L:6 M:271 C: Current Filing Date differs, Replaced Current Filing Date
 L:127 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:224
 L:372 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:160
 L:396 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:0
 M:341 Repeated in SeqNo=13
 L:412 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0
 M:341 Repeated in SeqNo=14
 L:500 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:0
 L:511 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:0
 L:558 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:0
 L:900 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:51 after pos.:0
 L:1023 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:61 after pos.:15
 L:1189 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:0